

Growing better Cities

URBAN AGRICULTURE FOR SUSTAINABLE DEVELOPMENT

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Building the Food Secure City

Incremental progress brings about change

In Dar es Salaam, Tanzania, compelling research and quiet advocacy is gradually changing ideas about the role of agriculture in this vibrant East African city.

Seen on a map, the four arterial roads that connect Dar es Salaam's city centre to the urban fringe and the hinterland beyond resemble a giant spider's web. The vast majority of the city's inhabitants — seven out of every 10 — live in a warren of unplanned settlements that are scattered between the principal byways outside the downtown core. The steady creep of these chaotic collections of wood, metal, and mud brick across the urban landscape has overwhelmed city infrastructure — less than 5% of urban residents, for example, are serviced by the city's waste disposal. In the absence of adequate services, such as water and sanitation, residents have become masters of "making do" and improvising.

Dar es Salaam, or Dar, has become, by necessity, a city of entrepreneurs. Tanzania's economic reforms have yet to translate into sustained job growth. To find employment, many residents look to the country's booming informal economy. In the downtown core, hawkers ply their trade in everything from avocados to Zippo lighters. Along the arterial roads, brick makers and timber brokers compete for space with charcoal sellers, flower vendors, and a multitude of other small traders. In backyards and vacant lots — anywhere people can find a patch of land — city farmers grow crops and raise livestock.

Dar's urban producers supply an estimated 95 000 litres of milk, 6 000 trays of eggs, and 11 000 kilograms of poultry to city residents every day. Each year, they grow some 100 000 tons of crops, including staples like maize and cassava.

Numbers like these are hard to ignore. But according to Camillus Sawio, a pioneer in urban agriculture research in



IDRC: Peter Bennett

Urban agriculture plays a critical role in supplying food, creating employment, and generating income for local people.

Tanzania, "there is still a general understanding that agriculture should take place in rural areas, despite the fact that people can see agricultural production across the city."

Urban farmers and their supporters have fought an uphill battle with governments at all levels. At various times, authorities have banned, ignored, tolerated, and even promoted urban farming, if only temporarily (See box: Agriculture and urban development in Tanzania). Now, thanks in large part to compelling research data, they are beginning to recognize the critical role urban agriculture (UA) plays in supplying food, creating employment, and generating income for local people.

Silent revolution begins

Ben Kasege, Manager of Tanzania's Local Government Reform Program and long-time supporter of UA, points to the 1978 review of the city's Master Plan as the beginning of a "silent revolution" that is slowly changing official attitudes toward farming in Dar es Salaam.

"We were still going through the old fashioned system of urban planning, where planners closeted themselves away somewhere trying to visualize what the city would look like in 20 years. It was not very participatory, but we were able to influence the preparation of the 1978 plan."

The Master Plan's expatriate authors included agriculture in their land use zoning. Areas for growing food and raising livestock were set aside in the suburbs and in areas of the inner city that were unsuitable for residential use, such as valleys. Ultimately, however, the comprehensive plan proved impractical for the cash-strapped state. In rural areas, development strategies missed their targets and impoverished villagers abandoned their *shambas* (or farms) for the city. By the 1990s, Dar's Master Plan had fallen off the rails, a victim of overly optimistic planning and a lack of investment in infrastructure and human resources during the previous decade. When the new millennium dawned, some 3 million people called Dar home — a doubling of the population in just 12 years.

Searching for solutions

Rapid changes to the urban environment triggered a growing interest in urban agriculture. Researchers with the Sokoine University of Agriculture and the University of Dar es Salaam began building a case for a new vision of urban development — one, that in the words of Ben Kasege, "was inclusive of all human activities, including agriculture."

In a project supported by the International Development Research Centre (IDRC) in 1988, Camillus Sawio painted one of the first comprehensive portraits of urban farmers in Dar es Salaam.

"At the time, there was little understanding of how urban agriculture takes place and what it contributes to the economy," says the soft-spoken researcher and priest.

Sawio's research debunked some persistent myths. Farming, he found, cuts across socioeconomic boundaries and is not the domain of the unschooled and illiterate as commonly believed. Four out of every 10 urban farmers, he noted, were secondary school graduates, business owners, or professionals like doctors. Today, Dar's thriving livestock trade is largely controlled by the well-to-do, who have the land and the income to invest in this lucrative market.

The research also revealed that the majority of urban farmers were well-established residents who grow food to reduce household expenditures and generate income. They are not, as was often surmised, recent migrants relying on old rural skills to make a living.

"The reality is that urban agriculture contributes substantially to food security. It also generates employment especially for youth, women, and the elderly," says Sawio. Farming, his research showed, is an integral part of the urban ecological, social, and economic system.

Building support

In 1993, IDRC and UN-HABITAT joined forces to support the Sustainable Dar es Salaam Project (SDP). The project's goal was to strengthen the local capacity to plan and manage the growth and development of the city in partnership with the public, private, and popular sector. It was to lead to a new strategic urban development plan and policies for integrating UA into improved management of the city's environment.

A series of city-wide consultations identified nine priority environmental issues, ranging from solid waste management to the urban economy and petty trading. Each issue became the basis for smaller working groups tasked with detailing the problems and proposing action plans. At the insistence of the Minister of Urban Development, UA was

Agriculture and urban development in Tanzania

To keep colonial towns and cities "clean and healthy," Tanzania's British rulers outlawed farming in urban areas. With independence, urban farmers — and to a large extent urban development — was ignored as the newly minted government promoted rural development and self-sufficiency, especially in food production. A series of crippling droughts in the 1970s saw policies like *Kilimo cha Kufa na Kupona* (agriculture for life and death) introduced to encourage urban residents to feed themselves. Several demonstration gardens were opened across Dar es Salaam to serve as pilot sites and to provide seeds and other inputs to locals. (See box: Garden revival).

In sharp contrast, a national program of "villagization" forcibly resettled "surplus" urban inhabitants in rural village cooperatives during the 1980s. Driven more by ideology than practical concerns, it proved politically unpopular and ultimately unenforceable.

Tanzania's one-party political system and centrally planned economy could not shelter the poor nation from the political winds of change that blew across Africa in the late 1980s and early 1990s. Structural adjustment programs and trade liberalization saw state-owned enterprises privatized and the public service reformed. The subsequent rise in unemployment saw many turn to urban agriculture to reduce household expenses and make ends meet.

added to the working group dealing with recreational areas, open spaces, hazardous lands, and green belts.

To feed the policy-making process, IDRC supported a team of six Tanzanian researchers led by Camillus Sawio. They surveyed nearly 2 000 urban farmers documenting the range of farming systems — aquaculture to agroforestry — in use across the city. They catalogued the areas under production, the numbers of people involved, the types of crops grown, and livestock raised. They examined changes and trends over the previous five years looking at related issues such as transportation, irrigation, waste management, marketing, and infrastructure connected to the processing and sale of UA products.

The researchers also looked at the interactions, both good and bad between UA and the urban environment, as well as the role urban agriculture is already playing in recycling the municipality's solid wastes. Most importantly, the researchers studied city by-laws and other forms of regulation that have an impact on UA.

They found that inadequate enforcement, a lack of knowledge among urban dwellers and decision-makers, as well as ambiguities in legislation may put the health of the local environment and communities at risk. Present by-laws, for example, allow residents to keep up to four animals in any "city area" providing they do not graze freely — a practice referred to as zero-grazing. In the city centre, cattle are often kept in inadequate shelters with few options for safe waste disposal or composting. In some of the low-density areas of the city, residents on larger lots keep more than the stipulated four head of cattle. To try and resolve these sorts of problems, researchers gathered recommendations from the urban farmers themselves on which activities should be prohibited or strictly regulated and why. They critiqued the adequacy and enforceability of by-laws and offered advice and assistance in revising them and writing new ones. By the time the SDP was completed in 1997, nine other Tanzanian municipalities were preparing to replicate the process.

Incremental change

Municipal reform launched in the late 1990s by the Tanzanian government has slowed the process of change, begun under the SDP. The city of Dar es Salaam was reconstituted as three municipalities. New players in local government have established new priorities. Nevertheless, the research team's findings did contribute to a successful proposal to rehabilitate urban garden centres built during the 1970s. (See box: Garden revival). The information base created by the research team continues to assist in the management of Dar's open spaces, recreational areas, and hazard-prone areas. And, according to Alphonse Kyessi, a research team member and an urban planner from University College of Lands and Architectural Studies (UCLAS), the team's research was successful in influencing the city's planning processes.



IDRC: Peter Bennett

Access to land remains a critical issue for urban farmers, especially women.

Garden revival

When George Lulandala first saw Dar es Salaam's horticultural gardens they were a "mess." Twenty some years of neglect had taken their toll. "Our job was to first revive the city gardens and then to negotiate for the sale of the gardens by the City Council to the garden's employees," says the Regional Director of the Dutch non-governmental organization, Agriproject Foundation Department of sub-Saharan African, or STOAS International. In seven sites across the city, 30 to 35 women and youth were hired by STOAS to rebuild water systems, erect fences, plant trees, and grow crops. The sites served as a market for fresh fruit and vegetables, a source of seedlings and seeds, and a resource for extension services.

"It was quite a success. We had posters promoting nutrition and city greening. The people of Dar es Salaam really turned out in numbers to buy our fruits and vegetables and our trees," says Lulandala.

Plans to privatize the gardens by selling them to the employees never materialized. Lulandala sees this as a missed opportunity.

"Forty percent of the food coming into Dar es Salaam comes from the suburban areas," he notes. Urban agriculture, he states, is an ideal way to provide employment, especially to the city's youth. Lulandala owns 15 acres of land on the peri-urban fringe that he farms himself. He provides employment to 10 young people and a steady supply of fruit and vegetables to "hotels across the city."

Though STOAS is no longer involved with the gardens, Lulandala has kept an eye on their progress. Four of the seven original sites are still in operation. Three new sites were created during the STOAS project. Of these, one remains, still owned and operated by the four young people who launched the operation.

"In 1997, the Ministry of Lands, Housing and Urban Development recognized UA as a major land use in the city. Ministry officials created a land use group for UA and use classes. These are now features on the city's land use maps."

Access to land

Changes in the planning department have not kept pace with changes on the ground — demand for land continues to outstrip supply. In the absence of properly surveyed land for development, residents typically squat on unoccupied public or private land or borrow land from relatives or friends.

Conflicts arise where municipal planning initiatives run up against customary land tenure practices. This is especially acute in peri-urban areas of Dar es Salaam which now include former villages. Speculators will often buy land on a customary basis and begin development regardless of zoning or other planned uses. In a three-city project that included Kinondoni, one of Dar's three municipalities, IDRC-supported researchers noted that many of these conflicts are resolved by turning to customary practices relying on village elders and village courts.

What is lacking, says project leader Takawira Mubvami, are "institutional arrangements [within the city bureaucracy] to manage conflict, negotiate, prevent, and resolve disputes on accessing land between farmers and authorities and between farming households." Developing these conflict resolution mechanisms will be the key to controlling land use across the city — open spaces continue to disappear at an alarming rate.

Silent revolution revealed

Camillus Sawio, Ben Kasege, and Alphonse Kyessi are all longtime residents of Dar es Salaam. All three men say that their city is greener now than it was 20 some years ago.

"We used to say the city was naked," laughs Kyessi. "Now it is clothed."

For Ben Kasege, the greening of Dar es Salaam is a visual reminder of the silent revolution begun in 1978. "Cities are about people," he maintains. It is a lesson that appears to have taken root in Dar es Salaam.

This case study was written by Kevin Conway of IDRC's Communications Division.

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